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SUMMARY

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THE ADAPTATION OF MACHINERY FOR MAKING BUILDING MATERIALS TO THE NEEDS OF DEVELOPMENT COUNTRIES

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THE ADAPTATION OF MACHINERY FOR MAKING BUILDING MATERIALS TO THE NEEDS OF DEVELOPMENT COUNTRIES

By

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SUMMARY

In establishing the infrastructure of a country, the building industry is very important, whether it is creating dwellings, public buildings, industrial or commercial buildings, communications, or public works, such as ports, dams, irrigation channels, tunnels, viaducts etc.

These works are all supplied with building materials which are heavy and therefore expensive to transport.

It is essential therefore to use local materials as far as possible.

Whatever is being built, there are two large classes of materials, aggregates and mortars.

Depending on the geology of the surrounding country, aggregates may comprise either:

1. quarried stone (ashlar or rubble masonry, cobblestones, broken stone, fine gravel or sand from crushed stone), or:

2. alluvial material, natural gravel, sand or pebbles, or:

3. clayey material which can harden by drying or baking (brick, tile, pottery etc.)

Mortars to hold the aggregates or stone together are:

1 - either bitumens or hydrocarbons used for making roads and airstrips, or waterproof diaphragms

2 - or hydraulic binders, lime, cement, gypsum plaster, or pozzolanas.

Not every known manufacturing process will be described, nor details given of all the machines which produce building materials.

We will merely emphasise, for each branch of industry, the points which are of interest to development countries, showing how they can find solutions which are both economically feasible and technically advanced.

Two main considerations are common to all building materials:

1. They are minerals. Geology controls them, and nothing should be done before a serious geological survey is made.

2. The quality must be high. Materials are often only a small part of the cost of the work. There should be no risk of premature deterioration or loss of the structure because of misplaced economy in materials.

Two other considerations should govern the choice of plant:

3. The problems should be well stated. Suppliers should be put in possession of all the facts, both on the type of raw materials and on the products to be made.

4. Other production properties being equal, the simplest and strongest equipment is the best.

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